

**ABSTRACT**

One embodiment of an electric door lock according to the present invention is interchangeable between fail safe and fail secure modes and comprises a housing for receiving the internal components of the door lock. A  
5 latch bolt is mounted within the housing and is movable from partially extending from and retracted into the housing. A doorknob is mounted to the housing and is rotatable to retract the latch bolt. A solenoid assembly is also mounted within the housing and can be  
10 interchangeably arranged to cause the lock to operate a fail secure mode wherein the doorknob is prevented from retracting the latch bolt when the solenoid is not energized, or a fail safe mode wherein the doorknob is allowed to retract the latch bolt when the solenoid is  
15 not energized. The solenoid is nested in place within the housing in both modes.